Comment

Gales, Streams, and Multipliers: Conceptual Metaphors and Theory Development in Business History

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Conceptual metaphors, like Galambos and Amatori's "entrepreneurial multiplier," play a pivotal but largely unexamined role in historical interpretation. They do this by allowing historians to see one set of historical associations or relationships in terms of another, more familiar, one. I highlight this interpretive role by comparing Galambos and Amatori's construct to Joseph Schumpeter's "gale of creative destruction" and Arthur Cole's "entrepreneurial stream" as metaphors that attempt to explain the relationship between entrepreneurship and historical change. I also point out the risks that taken-for-granted metaphors can have in narrowing room for interpretation, and argue that reflexivity and playfulness are essential to keeping conceptual metaphors alive as interpretive devices. I conclude by suggesting that metaphors are an intrinsic form of theorizing in historical interpretation, and illustrate my argument by briefly examining "industrial revolution" as a construct in business and economic history.

In "The Entrepreneurial Multiplier Effect," Louis Galambos and Franco Amatori propose the construct of the "entrepreneurial multiplier" as a way for historians to conceptualize and study the relationship between entrepreneurship and historical change in economies over time. Drawing an analogy to the Keynesian public investment multiplier, Galambos and Amatori proffer the "entrepreneurial multiplier" as the "sequence or series of innovations" that build on one another and that cumulatively creates structural changes in economies and societies. It

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is, they suggest, by studying these *sequences* of entrepreneurial actions "in toto" that we can begin to explain how "a series of…seemingly insignificant innovations can have a significant impact on a local economy and also on a society's culture and politics."[1] The authors then devote most of the article to illustrating the entrepreneurial multiplier using an impressive series of comparative vignettes that cover three industrial revolutions.

Galambos and Amatori's article can be understood in the context of a series of recent publications that together indicate that we may finally be seeing the reemergence of interest in entrepreneurial history among business and economic historians.[2] Though the study of entrepreneurship was one of the original concerns that motivated the emergence of historical scholarship on economics, business, and capitalism from the late nineteenth to the mid-twentieth centuries, entrepreneurial history became marginalized in the last third of the twentieth century as scholars turned their attention to organizations, institutions, and transactions. Entrepreneurship was rarely covered as a topic at all in business and economic history journals, and when it was it was often left undefined and underconceptualized.[3] The recent scholarship suggests not only the reemergence of entrepreneurship as a topic of interest but also the renewal of theoretical and conceptual concerns among historians about the relevance of entrepreneurship in historical accounts of business and capitalism.

In proposing the notion of an entrepreneurial multiplier, Galambos and Amatori address a central and long-standing conceptual problem in entrepreneurial history: individual entrepreneurs rarely, if ever, account for the kinds of structural changes—for example, the transformation of industries, the emergence of new markets, and the industrial revolutions—that historians are typically interested in explaining. Indeed, the conflation of "entrepreneurial history" with "business biography" has sometimes stymied efforts to study the cumulative processes by which entrepreneurial actions add up to historical change. Galambos and Amatori posit that the answer is to study not entrepreneurial individuals, or even entrepreneurial firms, but *entrepreneurial*

1. Galambos and Amatori, "Entrepreneurial Multiplier Effect," 766.

2. Wadhwani, Kirsch, Welter, Gartner, and Jones, "Context, Time, and Change;" Wadhwani and Jones, "Schumpeter's Plea"; Popp and Holt, "Presence of Entrepreneurial Opportunity"; Fredona and Reinert, "Harvard Research Center in Entrepreneurial History"; Wadhwani and Lubinski, "Reinventing Entrepreneurial History"; Raff and Scranton, *Emergence of Routines*; Casson and Casson, *Entrepreneur in History*; Jones, *Profits and Sustainability*; Landes, Mokyr, and Baumol, *Invention of Enterprise*; Graham, "Entrepreneurship in the United States"; McCraw, *Prophet of Innovation*; Cassis and Minoglou, *Entrepreneurship in Theory and History*; Godley, "Entrepreneurial Opportunities;" Burgin, "The Reinvention of Entrepreneurship;" Horowitz, *Entertaining Entrepreneurship.*

3. Wadhwani and Lubinski, "Reinventing Entrepreneurial History."

processes,[4] and specifically the sequences of innovations that together have economic, cultural, and political consequences. In proposing an "entrepreneurial multiplier" akin to the Keynesian investment multiplier, they offer a conceptual metaphor to ground their description of this sequential process.

My aim in this paper is to deepen discussion about Galambos and Amatori's entrepreneurial multiplier by placing the construct within its historiographical and conceptual context. Whereas Galambos and Amatori devote most of their effort to providing historical evidence in support of the validity of their construct, I evaluate the notion of an entrepreneurial multiplier by considering the questions: (1) Why historians use such conceptual metaphors to account for the cumulative and sequential nature of the entrepreneurship, and (2) How the entrepreneurial multiplier compares to some of the other conceptual metaphors proposed by historical thinkers. I do this by examining the strengths and pitfalls of such metaphors in historical explanation. Using conceptual metaphors is, in effect, a form of theorizing in history, a collective project that many business historians seem to be engaged in lately.[5] Galambos and Amatori's entrepreneurial multiplier thus offers an opportunity not only to examine the usefulness of their proposed construct but also to consider more reflectively why and how we engage in the development of such concepts as aids to historical explanation in the first place and to reflect on the promise and limits of doing so in business and economic history.

The Business of Metaphors

In their groundbreaking book *Metaphors We Live By*, George Lakoff and Mark Johnson argued that metaphors were not limited to poetic expression but formed an integral part of the way in which we understand and experience the world by seeing "one kind of thing in terms of another."[6] Lakoff and Johnson distinguished between three types of metaphors: orientational metaphors (e.g., things are looking up for investors), ontological metaphors (e.g., Microsoft is the evil empire), and structural metaphors (e.g., market competition is a battle). Unlike the more simple

4. Ibid.; Abbott, *Processual Sociology.*

5. Bucheli and Wadhwani, *Organizations in Time*; Kipping and Üsdiken, "History in Organization and Management Theory"; Rowlinson, Hassard, and Decker, "Research Strategies for Organizational History." On the longer history of the relationship between empiricism and theory in business history, see Kipping, Kurosawa, and Wadhwani, "Revisionist History of Business History"; Fredona and Reinert, "Harvard Research Center in Entrepreneurial History."

6. Lakoff and Johnson, *Metaphors We Live By*, 5.

orientational and ontological metaphors, structural metaphors "allow us…to use one highly structured and clearly delineated concept to structure another."[7] Metaphorical structuring of this kind, Lakoff and Johnson asserted, allows those who use metaphors to create a system in which *a complex and often abstract concept or set of relationships is described in terms of another, often more concrete and conceptually familiar one.* In this way, structural metaphors allow us to "conceptualize the less clearly delineated in terms of the more clearly delineated."[8]

Business and economic historians have long used such structural metaphors to try to conceptualize the complex process of change over time. This has been particularly true of historians' attempts to account for the sequential and cumulative nature of entrepreneurship and its relationship to historical change. Historical school economists of the nineteenth century critiqued classical economists for, among other things, (1) ignoring the will and agency of individual business people, and (2) focusing on equilibrating processes in stable markets rather than the dynamic, structural changes transforming capitalism.[9] But in seeking alternative explanations to classical and neoclassical economics, historians faced the problem that the first factor typically did not directly explain the second. Instead, empirical historical research and cases pointed to the fact that entrepreneurs, even those apparently "heroic" ones, often played only one part in a complex and contingent process by which a fuller sequence of entrepreneurial actions cumulatively changed industries and markets. Conceiving and explaining such complex processes and relationships over time rather than recounting the actions of heroic individual entrepreneurs, however, was challenging, not least because the consequences of such actions were mitigated by a host of institutional and contextual considerations. Conceptual metaphors provided a way to grasp such complex processes by relating them to more familiar, well-articulated domains of understanding.

Undoubtedly, the most famous of these conceptual metaphors was Schumpeter's "gale of creative destruction."[10] The metaphor first appeared in *Capitalism, Socialism, Democracy* (1942), but it built on decades of work on the relationship between entrepreneurial action and historical changes. McCraw points out that Schumpeter's famous book was published three years after his *Business Cycles*, a flawed and massive tome in which the economist grappled with historical cases

7. Ibid., 61.
8. Ibid., 59.
9. Wadhwani, "Historical Reasoning."
10. Schumpeter, *Capitalism, Socialism, and Democracy*, 81.

about the process of economic change in the United States, United Kingdom, and Germany in the cotton textile, steel, railroad, automobile, and electric power industries. In the historical case studies that appeared in *Business Cycles*, as McCraw points out, Schumpeter delved into the competitive dynamics involved not only in the introduction of an innovation itself by an entrepreneurial firm but also the process by which rivals attempted to forestall, adopt, adapt, and imitate the innovation, a process that over time led to "competing down" the entrepreneurial profits of the initial innovators and the transformation the industrial order.[11]

Capitalism, Socialism, Democracy—and the metaphor at its center—was the conceptual expression of Schumpeter's previous historical labors. Schumpeter's metaphor sought to distill the complex processes he described in *Business Cycles* by drawing on the already familiar and long-established dialectical reasoning that was familiar to historical thinkers as a way of conceptualizing change.[12] With the notion of creative destruction, Schumpeter proposed that innovative market competition took on a familiar dialectical form, in which the rivalry between the *present* and *future* was central to how new industrial orders emerged. While economists tended to focus on "competition within a rigid pattern of invariant conditions, methods of production and forms of industrial organization…it is not that kind of competition which counts but the competition from the *new* commodity, the *new* technology, the *new* source of supply, the *new* type of organization" that mattered for explaining capitalism as an evolutionary system, Schumpeter asserted.[13] The metaphor emphasized not only that innovation was a strong competitive force (i.e., a gale) but also one that initiated a process (i.e., the dialectics of creative destruction) that could wipe away existing structural orders and create new ones.

Schumpeter's colleague and unheralded successor, Arthur Cole, offered a more serene metaphor—the "entrepreneurial stream"—in conceptualizing the relationship between entrepreneurial action and historical change. In *Business Enterprise in Its Social Setting* (1959), Cole attempted to synthesize more than a decade of work on the relationship between entrepreneurship and change. Like Schumpeter, Cole was attempting to capture in his metaphor the "interaction of entrepreneurial units."[14] Whereas Schumpeter's "creative destruction" emphasized competitive dialectics as the defining aspect of these relationship, Cole's "entrepreneurial stream" relied on an ecological metaphor that

11. McCraw, "Schumpeter's Business Cycles and Business History."
12. Pendergast, "Schumpeter, Hegel, and the Vision of Development."
13. Schumpeter, *Capitalism, Socialism, and Democracy*, 82–85.
14. Cole, *Business Enterprise in Its Social Setting*, 76.

suggested inherent mutualism among entrepreneurs. "We want to learn, as it were, how the whole fraternity of log-riders manages to perform in a manner more productive than if each rode alone," Cole asserted.[15] Anticipating Galambos and Amatori, Cole suggested that entrepreneurial actions build on one another in a sequence that created "propulsion of a form of multiplier,"[16] and he focused in particular on the production and dissemination of new information and knowledge through entrepreneurial action as a central characteristic of this flow. As with Schumpeter, the purpose of introducing the metaphor was to help conceptualize how individual action related to structural change by grounding it in a familiar comparison. "To historians and economists, the notion of such a stream offers a variant element in helping to explain economic change," Cole concluded.[17]

Galambos and Amatori's construct of the entrepreneurial multiplier clearly fits within the historiographical tradition of trying to grasp the cumulative nature of entrepreneurship and its consequences for change through metaphor. Like the other metaphors, it compares entrepreneurial processes to a domain that both authors and readers find more concrete and well understood: in this case, the public investment multiplier in Keynesian economics. Like both Schumpeter and Cole, Galambos and Amatori seek to use the metaphor to articulate the nature of the linkages that tie together a sequence of entrepreneurial actions and that together explain economic change. Hence, the entrepreneurial multiplier "works directly through investment by forcing or incentivizing new investments in innovation,"[18] and it propels change primarily through economic growth. Following the structure of the metaphor, the entrepreneurial chain is essentially characterized as similar to an investment relationship that promises higher or lower returns based on a sequence of consequences.

Placing the entrepreneurial multiplier in historiographical context suggests how important (and powerful) conceptual metaphors have been in entrepreneurial history. Metaphors have been used as a form of theorizing the relationship between entrepreneurship and historical changes in a way that grounded a complex and quite indeterminate set of relationships in time in a comparison to a domain that is familiar, more clearly articulated, and widely accepted. As the differences in the metaphors above already imply, however, any one metaphor works to hide as much it reveals. "The very systematicity that allows us to understand one aspect of a system in terms of another," explained

15. Ibid, 77.
16. Ibid, 80.
17. Ibid, 96.
18. Galambos and Amatori, "Entrepreneurial Multiplier Effect," 765.

Lakoff and Johnson, "will necessarily hide other aspects of the concept."[19] Adopting and using the entrepreneurial multiplier as a construct in entrepreneurial history, therefore, requires attention to what it hides about entrepreneurial processes as much as what it reveals about them.

Metaphors of Business

Two perspectives allow us to identify what the entrepreneurial multiplier concept reveals and what it hides. The first involves comparing the focal metaphor (the multiplier) to others (creative destruction, the entrepreneurial stream) to understand what each allows us to see. The other involves comparing the metaphor to the evidence and narrative produced by Galambos and Amatori themselves to see where the story and its characters break from their assigned plot.

A simple comparison is provided in Table 1. It identifies the target domain that grounds each of the three metaphors, as well as two key elements that give structure to the metaphorical comparisons: the nature of the relationship or linkages that tie together entrepreneurial actions into a sequence, and the character of the historical change it implies. Whereas Schumpeter drew on the domain of historical dialectics for his comparison and Cole on an ecological formation for his, Galambos and Amatori turn to economics as their source of inspiration. This is interesting, in part, because the authors themselves see the irony, and maybe even express some discomfort, in choosing to draw on the domain of economics: "Our approach to a subject that many economists avoided for decades nevertheless draws on economics for its central concept," they explain.[20] Implicit within the choice of the target domain is the unstated sense that economics, as a discipline, provides the soundest source for theorizing about economic phenomena and relationships. It is ironic to find Galambos and Amatori, both historians, turning to economics to ground their metaphor while Schumpeter and Cole, both notable economists, made their contributions to entrepreneurial theory and history by explicitly and vocally fleeing orthodox economic theory precisely because they did not find it a fertile domain for thinking about entrepreneurship.[21]

Comparison also casts light on how each metaphor characterizes the nature of the linkages that tie together entrepreneurial actors and propels a sequence of actions, as well as their relationship to historical change.

19. Lakoff and Johnson, *Metaphors We Live By*, 10.

20. Galambos and Amatori, "Entrepreneurial Multiplier Effect," 764.

21. Schumpeter, "Creative Response in Economic History"; Cole, *Business Enterprise in Its Social Setting.*

Table 1: Comparison of Conceptual Metaphors of Entrepreneurial Sequences.

		Characterization of Entrepreneurial Process	
Metaphor	Target Domain	*Linkages*	*Time & Change*
Gale of creative destruction	Historical dialectics	Competition	Disruption, Renewal
Entrepreneurial Stream	Ecology	Mutualism	Flow
Entrepreneurial Multiplier	Economics	Investment	Sequential chains; magnitude

Schumpeter focuses on competitive dynamics as the essential characteristic that defines the relationship between entrepreneurial actions, and Cole finds an implicit mutualism that arises primarily from entrepreneurial actors' reliance on information and knowledge about opportunities produced by others in the entrepreneurial stream. Galambos and Amatori's chain of events are held together, in contrast, by the financial logic that one innovative event propels a sequence by "incentivizing or forcing investments" in subsequent ones.[22] The metaphors also suggest differences in the pattern of historical change. Schumpeter's gale of creative destruction highlighted the fundamentally disruptive and halting nature of entrepreneurial change and the loss of old commercial habits, customs, and products as much as the creation of new ones, in contrast to Cole's stream that depicted historical change essentially as a constant flow. Interestingly, Galambos and Amatori depict time and events as unfolding in sequential chains of action, some of relatively short length and others that are long and have more radical consequences.

Perhaps the greatest strength of the entrepreneurial multiplier metaphor vis-à-vis the other two is that it evokes a sense of the variable magnitude of entrepreneurial consequences and links these to differences in the length of the sequence of actions that an innovation allows. More so than Schumpeter or Cole, Galambos and Amatori draw attention to the notion that the magnitude of an innovation's historical impact may be significantly larger than at first meets the eye, and that the magnitude is determined not only by the innovative event itself but also by the subsequent actions it catalyzes. The authors' separation of relatively short and long chains offers a distinction that I think would be valuable as a basis for framing follow-up research in entrepreneurial history; and their claim that technological innovation creates the longest chains (and hence the greatest structural change) offers a useful hypothesis for subsequent discussion and evaluation. The distinction between short and

22. Galambos and Amatori, "Entrepreneurial Multiplier Effect," 762.

long chains also creates opportunities for incorporating more modest innovations and those not limited to technology. This is what Galambos and Amatori seem to have in mind in saying that the multiplier would encourage business and economic historians to "look again to social, urban, and cultural histories"[23]—which I understood in part as a bid to argue that entrepreneurial history should be taken seriously within what American scholars in particular tend to call the history of capitalism. In these ways, and particularly in the language of short and long entrepreneurial sequences, the multiplier concept can spark some very productive followup research and thinking.

In a number of other ways, however, the multiplier metaphor hides important aspects of the entrepreneurial process that historians should not lose sight of as they reengage the project of entrepreneurial history. One such aspect is the inherent displacement of older commercial customs, habits, products, and organizations that entrepreneurial change entails, and that Schumpeter's creative destruction metaphor highlights best. Galambos and Amatori are, of course, attuned to this; they are themselves too skilled and experienced as historians to let the metaphor blind them. They mention that "not everyone benefitted"[24] from the entrepreneurial process, but still the multiplier metaphor only evokes the kind of loss that entrepreneurship entails, in a muted way. The authors write that "the balance sheet in this case clearly included liabilities as well as assets."[25] However, the application of accounting terminology to creative destruction robs both the character of the old industrial orders and its values of much of color and tenor. The terminology misses qualities of that loss (e.g., values, ideologies, emotions, and social relationships) that in some sense are incommensurable with the economic metrics of the authors' balance sheet.

The economic logic of the multiplier metaphor also flattens the multidimensional qualities of the flows that link entrepreneurial actions along the sequence. Though Galambos and Amatori emphasize inducements ("incentivizing and forcing") to investments that propel entrepreneurial sequences, both their evidence and their narrative suggest that these linkages are more complex and multifaceted. In a single paragraph, in fact, they mention the "several different ways" that sequences unfold, including by "encouraging emulation," the creation of new "local opportunities," the spillover of "capabilities and knowledge," and the ways in which successful innovations "generated capital that begat further innovations."[26] The evidence and

23. Ibid., 798.
24. Ibid., 773.
25. Ibid., 775.
26. Ibid., 768.

explanations suggest a more complex set of research questions: How do these different flows (in expectations, opportunities, resources, and capital) relate to one another and interact with each other? Does the nature of the flow lead to differences in the character of the link between entrepreneurial actors? Do some flows create more fundamental historical changes than others? These should not be lost by the multiplier metaphor's implicit notion that what is being multiplied may be captured by a single investment metric.

The multiplier metaphor also elides complex path dependencies and contingent directionality in the chain of entrepreneurial action; entrepreneurial acts at one moment in time may make the pursuit of one kind of subsequent entrepreneurial opportunity more likely, but it may also make a path to a different kind of opportunity less likely or foreclose it all together.[27] Entrepreneurial actions that create better and more efficient highways may spawn secondary and tertiary entrepreneurial consequences that catalyze improvements in cars, the organization of suburbs, and the proliferation of a host of suppliers and service providers. It may also foreclose or make it more difficult to engage in entrepreneurial actions to improve or modernize rail transportation or to foster businesses that depend on urban density. The multiplier metaphor itself lacks the conceptual robustness to capture this complex branching process in the chain of consequences, in a way that Cole's entrepreneurial stream seems a little better at doing. As with the aspect of destruction and loss, Galambos and Amatori are clearly aware of this process and, I think, rightly drop their economics-inspired metaphor for a more arboreal one at times: "The path of these sequences resembles a great tree with many branches, rather than a single, linear trace."[28] This is a metaphor that Cole also occasionally evoked when the "stream" seemed insufficient.

However, the aspect of the entrepreneurial process most at risk of being elided by the entrepreneurial multiplier concept is its deep uncertainty. In retrospect, the sequences we see and document seem clear and ineluctable: the introduction of a new technology or product or organization destined to transform an industry or economy, and the magnitude of its effects is clear to the point of being nearly quantifiable. Prospectively, though, from the point of view of entrepreneurs themselves, the nature of entrepreneurial opportunities are fundamentally uncertain, and the sequences by which they unfold are a gauzy and ever-changing landscape of the future.[29] In contrast, the Keynesian public multiplier not only suggests a magnitude to public action but

27. Wadhwani and Jones, "Schumpeter's Plea."
28. Galambos and Amatori, "Entrepreneurial Multiplier Effect," 767.
29. Popp and Holt, "Presence of Entrepreneurial Opportunity."

also offers the lure of predictability. Galambos and Amatori, in explaining the Keynesian multiplier, offer the example that "if a society's multiplier is three, for instance, the national income will be increased by a factor of three when government spending or a new technology prompts investment."[30] In contrast, it would be nearly impossible to offer an entrepreneurial multiplier for a given innovation with anything of the same certainty. In Knightian parlance,[31] the Keynesian multiplier involves certain risks that suggests a distribution of probable but knowable magnitudes around an expected value that could be statistically determined, whereas the entrepreneurial multiplier is subject to fundamental uncertainty in which determining an expected value and distribution—even if the expected number is positive!—is unrealistic. In applying the multiplier metaphor to entrepreneurial processes, the fundamental uncertainty of entrepreneurial futures that characterizes such sequences of actions is hidden, which risks giving these processes a magnitude and probabilistic character that they lack. In doing so, historians bring ourselves close to the point of robbing entrepreneurial actors of the will and contingencies that we have often charged is lacking in economic reasoning.

Monopolies of Meaning and the Market for Metaphors

All metaphors are, by their nature, incomplete. If a comparison between two domains yielded a completely identical structure, then the domains would in effect be the same, and a metaphor would be useless. Moreover, Galambos and Amatori themselves seem to implicitly recognize when their metaphor works and when it does not, and their narrative and evidence willingly points to some of the topics mentioned above that break the metaphor's structure. So, why bother with the extensive analysis of the difference between metaphors of the entrepreneurial sequence and the inconsistencies that arise at times with the evidence and narrative? My main reason for pointing out the strengths and weaknesses of the multiplier concept is that such metaphors can become extraordinarily powerful conceptual constructs over time, shaping expectations and preconfiguring our understanding of evidence and archives. Metaphors can act as powerful conceptual devices to open up how we interpret the past but also to restrict interpretive possibilities and shut down alternative explanations.

Consider, for example, the ways in which certain conceptual metaphors have at times dominated organizational research. The use of the

30. Galambos and Amatori, "Entrepreneurial Multiplier Effect," 763.
31. Knight, *Risk, Uncertainty and Profit.*

evolutionary biology metaphor, for instance, hardened thinking in some branches of management science and restricted how history was studied for decades. When such metaphors were first proposed, critics warned about the assumptions the evolutionary analogy transposed from the natural sciences to the human ones. In a stinging assessment, Edith Penrose called the application of the evolutionary analogy to business "downright obscurantism" because it failed to account for "the conscious willed decisions of human beings" and the ways in which firms are able "to adapt the environment to their own purposes."[32] Nevertheless, the evolutionary metaphor became the most dominant lens through which history and historical evidence was seen in management research for decades, and historians have at times found themselves having to drop the term history to talk about how business evolves.[33] The "price of metaphor" is that it can restrict the questions scholars ask and prefigure evidence as the metaphor comes to be seen as an ontological reality rather than as a conceptual device.[34] Similar charges can be made about "institutional theory" in management and its dependence on Weber's "iron cage" metaphor.[35] Rather than using the metaphor to offer fresh insights and ways of seeing the world over time, scholars often extended and tweaked it under the justification of making "contributions to theory." At such points, rather than the metaphor serving us as a fresh way of seeing the world, we serve the metaphor.

To keep metaphors "alive," we need to be both reflexive about their nature as conceptual devices that carry associations and deploy them playfully to make sense of the past in new ways. Reflexivity about the tool-like qualities of metaphors allows us to be aware of the implicit associations they carry and hence how to better use them in crafting historical interpretations. Suddaby and Foster, for instance, have shown how varying assumptions embedded in implicit metaphors about history have shaped the explanations organization theorists have proffered about how things change.[36] Theories of how metaphors work can also serve historians well as guides to using them skillfully. Cornelissen, for instance, provides a conceptualization of metaphors based not on comparison (i.e. seeing one construct as another) but as a form of

32. Penrose, "Biological Analogies in the Theory of the Firm," 818-819.

33. Hannan and Freeman, *Organizational Ecology*; Hannan and Freeman, "Population Ecology of Organizations"; Nelson and Winter, *Evolutionary Theory of Economic Change.*

34. Fraccia and Lewontin, "The Price of Metaphor."

35. DiMaggio and Powell, "Iron Cage Revisited." The metaphor focused research in new institutional sociology and organization studies on the study of isomorphism for two decades following DiMaggio and Powell's landmark article.

36. Suddaby and Foster, "History and Organizational Change."

creative interaction between two domains that creates an entirely novel third construct.[37] Using metaphors reflexively, by engaging critically with their assumptions and associations and by considering them from different theoretical lenses, can thus allow historians to deploy them more flexibly and imaginatively.

The creative possibilities of metaphors in business history are also unleashed when we use them in playful ways to render new and varying interpretations of what we thought we knew. By play, I mean the act of engaging in historical interpretation primarily as amusement and joy – what Charles Peirce referred to as "pure play"[38] – not for the explicit purpose of making justifiable scholarly claims. Philosophers of science have argued that playfulness and free association of this sort forms an integral aspect of the "context of discovery" rather than the "context of justification."[39] Metaphors, it seems to me, are inherently fun because of the kaleidoscopic ways they let us play with social reality in general and history in particular.

Godley and Hamilton's recent study of the comparative development of the poultry industry in the United States and the United Kingdom illustrates well the value of playing with metaphors.[40] Building on historian Reinhart Koslleck's proposition that "time, as it is known, can only be expressed in spatial metaphors,"[41] they compare two temporal-spatial constructs in order to produce competing historical explanations for why British entrepreneurs had a higher propensity to engage in strategic partnerships than American ones. The first metaphor, time-as-structure, is assumed in such organizational theories as evolutionary theory, path dependence, and lifecycle theory; the second metaphor, the space-of-experience, is inherent in the scholarship on organizational identity, organizational memory, rhetorical history and the uses of the past. Laying the two historical interpretations side by side, they show how the metaphor of time-as-experience better explains the propensity to engage in partnerships than time-as-structure because of the role of memory in shaping entrepreneurs' "images" of the market.

Metaphor-as-Theory

So far, I have stayed away from discussing "theory" explicitly, but our analysis of Galambos and Amatori's metaphor brings us too close to the

37. Cornelissen, "Beyond Compare."
38. Quoted in Swedberg, "Theorizing," 15.
39. Ibid.
40. Godley and Hamilton, "Different Expectations."
41. Koselleck, *Futures Past*, 235.

topic to avoid it. The role of metaphor in theorizing has been extensively examined in social science in general, and in organizational research in particular. In fact, much of the literature on "theorizing" in social science stipulates that the development and application of metaphors can form the core of the theorizing process.[42] If metaphors are such powerful engines of theorization and if historians use metaphor regularly in producing our interpretations, what does this imply about theorizing in history?

To date, business and economic historians have typically engaged in the theory debate by framing it as a question of whether historians should or should not theorize. This should-historians-theorize framing of the question underlay the *methodenstreit* of the late nineteenth century, the competing claims of business history and entrepreneurial history in the post-World War II period, the debate over new economic history in the 1970s and 1980s, and again today in historians' engagement with management and organizational studies.[43] Approaching the question in this way assumes that theory resides *outside* history; whereas history is understood as an enterprise focused on the sources, facts, and interpretations of the past, theory is seen as a separate and foreign endeavor.[44] To historicize and to theorize are assumed to be categorically different processes. However, the widespread use of conceptual metaphors in historical interpretation suggests that the question of whether historians should theorize is simply the wrong question. The better one is *how* do historians theorize and *how* is this different from the theorizing that is common in the other social sciences.

The scholarship on "theorizing" in the social sciences typically depicts metaphor as a means to an end rather than an end in itself in the theorizing process. Swedberg, for instance, proposes the following four "basic rules of theorizing in social science:" (1) observe something interesting; (2) name and formulate a central concept; (3) build out the theory using analogies, metaphor, and comparisons; (4) formulate a model or tentative theory that incorporates explanation.[45] While historical interpretation involves steps 1 through 3, it does not comfortably entail the fourth. Formalization and modeling imply the creation of rule-like claims and causal laws that separate theory from context and seemingly distort historical interpretation. This view of theory, based in natural science assumptions and Newtonian depictions of causation,

42. Morgan, *Images of Organization*; Tsoukas, "The Missing Link;" Oswick, Keenoy, and Grant, "Metaphor and Analogical Reasoning;" Cornelissen, "Beyond Compare;" Swedberg, "Theorizing."

43. Kipping, Kurosawa, and Wadhwani, "A Revisionist Historiography"

44. Kipping and Usdiken, "History in Organization and Management Theory."

45. Swedberg, "Theorizing."

is one that many historians reject as incompatible with historical interpretation.

But this is not the only understanding of theory in the social sciences. When understood from the perspective of pragmatism or phenomenology, social science theory is depicted not as an objective and abstract body of rules and explanations but rather as an extension of the normal sensemaking of everyday life.[46] Theorizing happens as scholars take a reflexive stance and grapple with puzzling situations by developing constructs to explain the phenomena that puzzle them. Rather than a set of rules and explanations derived deductively or inductively, theorizing involves the development of a set of provisional claims arrived at abductively and based on practices that may vary from scholarly community to community.[47]

From this perspective, the development and use of conceptual metaphors can be seen as an intrinsic aspect of theorizing historically. Conceptual metaphors are constructs developed and used by historians to make sense of puzzling sets of associations and relationships. Moreover, conceptual metaphors allow historians to theorize within the bounds of historical practice – as they grapple with and make sense of particular historical phenomena *and* as an integral aspect of the historical narrative that is produced. Indeed, the nature of metaphor as "everyday language" allows historians to theorize within narratives *without appearing to have theorized* – in sharp contrast to the practice of theorizing in many other social sciences where theorizing announces itself in scholarly rhetoric. Historians can integrate conceptual metaphors without breaking narrative stride and without having appeared to have theorized. In the rhetoric of history, metaphor – like narrative – allows historians to write in a way that "events seem to tell themselves."[48]

This does not mean that historical practices prohibit the explicit discussion of metaphor-as-theory. Historians often *do* discuss and critique the adequacies of particular constructs as depictions of historical phenomena, as I am doing here. And, there is no inconsistency in drawing out the implications of a historical metaphor explicitly as historians publish in fields where such theorizing practices prevail, as the article by Godley and Hamilton illustrates. But the understated character of metaphor-as-theory is important because it plays a crucial role in how historical theory penetrates into everyday life. Precisely

46. Weick, "What Theory Is Not, Theorizing Is."

47. Zundel and Kokkalis, "Theorizing as Engaged Practice;" Mantere and Ketokivi, "Reasoning in Organization Science."

48. White, "The Value of Narrativity," 396.

because historical metaphors do not announce themselves as theories, they can move effortlessly into routine communications and practices.

Take, as a final example, a metaphor that has long been at the center of economic and business history: industrial revolution. Though the term was occasionally employed by Friedrich Engels and others in the middle of the nineteenth century, it only came into widespread use following Arnold Toynbee's 1882 lectures on the topic to a group of students of modern history at Oxford University.[49] The conceptual metaphor was clear in the title, the content itself, and in the way Toynbee addressed a student audience used to thinking of revolutions in political and intellectual terms. "The French Revolution has indeed profoundly modified our views of History, but much still remains to be done in that direction," he explained. "If I could persuade some of those present to study Economic History … I should be indeed glad."[50] Toynbee's narrative was organized around how new technologies "destroyed the old world and built a new one."[51] For Toynbee, the metaphor of industrialization-as-revolution was crucial for establishing the relationship between new technologies and deep changes in British society, particularly the relationship between employers and employees. Toynbee's "industrial revolution," explains Daniel C.S. Wilson, was both "a historical theory and an event."[52]

Historians, as is well known, have extensively debated and critiqued the validity of the metaphor as a depiction of British industrialization.[53] But the metaphor itself has proven extremely resilient and productive in historiography, in memory, and in practice as a "historical theory" of the relationship between new technologies and social change.[54] Within the context of the late nineteenth and early twentieth century ascendance of the United States and Germany in the new technologies of electricity, chemicals, and plastics, the conceptual metaphor gained new historiographical relevance as a way of puzzling over the rise and decline of Great Britain's relative competitiveness. The notion of the "second industrial revolution" transformed the metaphor from a construct referring to a specific time and place to a theory of economic transformation more generally. In the post-World War II period the metaphor's meaning was expanded once again by historians like Walt Rostow, who used it to draw out explicit policy claims about the

49. Wilson, "Arnold Toynbee."
50. Toynbee, *The Industrial Revolution*, 32.
51. Ibid., 189.
52. Wilson, "Arnold Toynbee," 135.
53. For example, Crafts and Harley, "Output Growth."
54. Cannadine, "The Present and the Past of the English Industrial Revolution, 1880-1980;" Coleman, "Industrial Growth and Industrial Revolutions," Wilson, "Toynbee."

relevance of technology for transforming emerging economies and societies in the context of the Cold War. And today, the historical metaphor has become part of everyday language to explain the intention and outcome of action, as entrepreneurs and investors in addition to policymakers explain their choices as part of a third or fourth industrial revolution.[55] As a construct, "industrial revolution" has become a theory-in-use about technological novelty and social transformation with significant influence over practice in the everyday language of business in addition to a strong driver of historiographical development.

Ironically, then, the power of conceptual metaphors as a form of theorizing may be attributable precisely to the impression that one is *not* theorizing. Embedded in the everyday language of historical narrative, conceptual metaphors allow theory development in history while rejecting the rhetorical formalization it takes in some social sciences. Moreover, the seemingly common quality of metaphor allows its associated claims to seep into the everyday language of practice. One can talk of the "fourth industrial revolution" or the efforts of developing countries to "catch up" or characterize entrepreneurs today as engaged in "creative destruction" without a self-conscious sense of the historical theorizing that has been involved in seeing the world in these ways. And theory, at least of this metaphorical sort, can be understood as an integral part of moving a historiography forward.

A concluding metaphor—this one also offered by Schumpeter—may best capture how the creation and use of new conceptual metaphors works to advance research in entrepreneurial history. "Personally, I believe that there is an incessant give and take between historical and theoretical analysis and that, though for the investigation of individual questions it may be necessary to sail for a time on one tack only, yet on principle the two should never lose sight of each other," Schumpeter wrote in a paper calling for the study of entrepreneurial history.[56] The sailing metaphor reminds us that the development of a field like entrepreneurial history requires a moving back and forth between history and theory, and that each tack toward theory can only put wind in our sails to the extent that it allows us to see the history in new ways. Galambos and Amatori's metaphorical multiplier is not only part of a longer tradition of this tacking back and forth but also offers an opportunity to see anew a process that historians have long sought to understand.

55. Schwab, *Fourth Industrial Revolution.*
56. Schumpeter, "Economic Theory and Entrepreneurial History," 264.

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